

IN THE CLAIMS:

1.-14. (Cancelled)

15. (Currently amended) An optical disk control device comprising a digital signal processing means and an analog signal processing means,

said digital signal processing means comprising an A/D conversion command means for converting analog signals, and a serial transfer means,

said analog signal processing means comprising:

a playback signal detection means for detecting data recorded on a disk;

a serial reception means for receiving a signal transferred from the serial transfer means on the basis of a conversion command from said A/D conversion command means of the digital signal processing means; and

a signal switching means for successively selecting plural data signals obtained by the playback signal detection means, according to a signal received by the serial reception means, and for time-division-multiplexing the selected signals; ~~and~~

said digital signal processing means comprising:

an A/D conversion means for analog-to-digital ~~converting~~ conversion of a data signal transferred from the analog signal processing means; and

an arithmetic processing means for performing arithmetic processing on digital signals outputted from the A/D conversion means;

said A/D conversion command means for first setting an order of acquiring digital signals

said A/D conversion command means for first setting an order of acquiring digital signals outputted from the arithmetic process means, and then generating an A/D conversion command instructing performance of an A/D conversion according to said set order; and

said serial transfer means for serially transferring a command signal from the A/D conversion command means.

16. (Currently amended) ~~The optical disk control device as defined in Claim 15,~~
~~comprising:~~ An optical disk control device comprising a digital signal processing means and an analog signal processing means,

said digital signal processing means comprising an A/D conversion command means for converting analog signals, and a serial transfer means,

a plurality of said analog signal processing means; ~~and~~ said analog signal processing means comprising:

a playback signal detection means for detecting data recorded on a disk;

a serial reception means for receiving a signal transferred from the serial transfer means on the basis of a conversion command from said A/D conversion command means of the digital signal processing means; and

a signal switching means for successively selecting plural data signals obtained by the playback signal detection means, according to a signal received by the serial reception means, and for time-division-multiplexing the selected signals;

said digital signal processing means comprising:

an A/D conversion means for analog-to-digital converting a data signal transferred from the analog signal processing means, said A/D conversion means for successively selecting output signals from the signal switching means of the plural analog signal processing means on the basis of a command from the A/D conversion command means of the digital signal processing means, and for successively converting the selected output signals into digital signals[[]]; and

an arithmetic processing means for performing arithmetic processing on the basis of a digital signal outputted from the A/D conversion means;

said A/D conversion command means for generating an A/D conversion command under an instruction from the arithmetic processing means; and

said serial transfer means for serially transferring a command signal from the A/D conversion command means.

17. (Currently amended) ~~The optical disk control device as defined in Claim 15,~~
~~wherein:~~ An optical disk control device comprising a digital signal processing means and an analog signal processing means,

said digital signal processing means comprising an A/D conversion command means for converting analog signals, and a serial transfer means,

said analog signal processing means comprising:

a playback signal detection means for detecting data recorded on a disk;

a serial reception means for receiving a signal transferred from the serial transfer means on the basis of a conversion command from said A/D conversion command means of the digital signal processing means;

a signal switching means for successively selecting plural data signals obtained by the playback signal detection means, according to a signal received by the serial reception means, and for time-division-multiplexing the selected signals; and

~~said analog signal processing means further comprises~~ a sample hold means for sampling and holding an output signal from the signal switching means, on the basis of a signal transferred from the serial transfer means; ~~and~~

said digital signal processing means comprising:

an A/D conversion means for analog-to-digital converting a data signal transferred from the analog signal processing means, said A/D conversion means is for converting an analog signal which is sampled and held by the sample hold means, into a digital signal; and

an arithmetic processing means for performing arithmetic processing on the basis of a digital signal outputted from the A/D conversion means;

said A/D conversion command means for generating an A/D conversion command under an instruction from the arithmetic processing means; and

said serial transfer means for serially transferring a command signal from the A/D conversion command means, in place of an output signal from the signal switching means.

18. (Currently amended) The optical disk control device as defined in Claim 17,
wherein
said analog signal processing means comprising a pair of the signal switching means and
a pair of the sample hold means; and
said A/D conversion means is for converting analog signals which are sampled and held
by the pair of the signal switching means and the pair of the sample hold means, into digital
signals, ~~in place of output signals from the pair of sample hold means.~~

19. (Previously Presented) The optical disk control device as defined in Claim 15,
wherein:
said serial transfer means controllable on the basis of the conversion command from the
A/D conversion command means of the digital signal processing means; and
said signal switching means operable by a signal from the serial reception means of the
analog signal processing means to select one of plural data signals obtained by the playback
signal detection means, for each conversion command, and for time-division-multiplexing and
transferring the selected signals to the A/D conversion means of the digital signal processing
means.

20. (Currently Amended) ~~The optical disk control device as defined in Claim 15,~~
~~wherein:~~ An optical disk control device comprising a digital signal processing means and an
analog signal processing means,

said digital signal processing means comprising an A/D conversion command means for
converting analog signals, and a serial transfer means,

said analog signal processing means comprising:

a playback signal detection means for detecting data recorded on a disk;

a serial reception means for receiving a signal transferred from the serial transfer
means on the basis of a conversion command from said A/D conversion command means of the
digital signal processing means;

~~said analog signal processing means further comprises~~ a variable gain amplification
means controllable by a state setting communication from the serial reception means for setting
the internal state of the analog signal processing means;

a signal switching means for successively selecting plural data signals obtained by
the playback signal detection means, according to a signal received by the serial reception means,
and for time-division-multiplexing the selected signals, said signal switching means operable by
a signal from the serial reception means to select one of plural data signals obtained by the
playback signal detection means, for each conversion command; and

the gain of the variable gain amplification means is settable by the state setting signal,
which is transferred for each conversion command by the state setting communication, for setting
the internal state of the analog signal processing means[.];

said digital signal processing means comprising:

an A/D conversion means for analog-to-digital converting a data signal transferred from the analog signal processing means; and

an arithmetic processing means for performing arithmetic processing on the basis of a digital signal outputted from the A/D conversion means;

said A/D conversion command means for generating an A/D conversion command under an instruction from the arithmetic processing means; and

said serial transfer means for serially transferring a command signal from the A/D conversion command means.

21. (Currently amended) The optical disk control device as defined in Claim 20, wherein

said analog signal processing means comprises a pair of sample hold means for sampling and holding output signals from the signal switching means on the basis of a signal transferred from the serial transfer means, and a pair of the variable gain amplification means; and

the gains of the variable gain amplification means are ~~settable~~ set by a state setting signal that is transferred for a pair of signals for each conversion command, and the pair of the sample hold means for simultaneously obtaining output signals from the signal switching means.

22. (Previously Presented) The optical disk control device as defined in Claim 20, comprising:

a plurality of the analog signal processing means, each of the plural analog signal processing means comprising a pair of the sample hold means and a pair of the variable gain amplification means.

23. (New) The optical disk control device as defined in Claim 15, wherein the arithmetic means for performing arithmetic processing performs such processing on digital signals outputted from the A/D conversion means successively in a predetermined order, to generate a control signal for controlling an optical system.